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A Monthly Magazine Dedicated to the Conservation, Restoration, and Wise Use of Virginia's Wildlife and Related Natural Resources, and to the Betterment of Hunting, Fishing and Outdoor Recreation in Virginia

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JANUARY

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COVER: Featured on our January cover—the first to incorporate our new "logotype"—are a pair of black-capped chickadees drawn by John W. Taylor of Annapolis, Maryland.

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EDITORIAL

Not Just the Fish or Game

IT was estimated that on the opening day of the general hunting season, some 200,000 hunters roamed the fields, woods, and waterlands of Virginia. What were all these people after?

Obviously, just about all were after their favorite forms of game—deer, grouse, quail, rabbits, squirrels, to mention a few. But was this all they were after? At one spot in Bath County there were 18 groups of hunter camps within shouting distance. Were these rugged outdoorsmen only after deer?

Not so long ago a group of us from the Old Dominion journeyed down to famed Hatteras Island for a long-awaited weekend of surf fishing. Though the luck was on the slim side we had lots of fun and plenty of good exercise. What were we after?

The weather, almost always foul for this wild country pushing so boldly into the turbulent Atlantic, was quite warm and the wind was on the gentle side. On the second day, half of the brave souls in the party arose from warm bunks at 3:00 a.m. to take part in a simple but memorable experience—to try for the big fish in the pre-dawn darkness and, perhaps, to thrill to the breaking of a new day in a picturesque land of ocean, sky, and beach.

We were impelled by the desire to wrestle with those great battlers of the surf, channel bass, it is true, but the force that really drove us was less definite than that and far more sublime.

To two members of the party there was the climactic charge of a get-away fish, then the sudden letdown of a broken line. To others it was the voices of nocturnal gulls and the increasing tempo of the piling surf as it headed pell-mell into high tide. To others, still, it was the brilliance of Cirius in the starlit sky and old Hatteras lighthouse throwing its revolving beams of light around again and again. And to all it was the subsequent and gradual breath-taking spectacle developing in the eastern horizon—the breaking of dawn on a wider and wider stage of the open Atlantic.

To see dawn break over the beach country is to witness a great natural drama. Yet it happens almost every day. The changing shades of light, the purple and blue mountains of clouds taking different shapes, the golden rays of the sun as it sends its first streaks of yellow and pink more and more toward the zenith, then the first brilliance of the sun itself—all these are but the preliminaries. Finally comes the great show itself—the heavy, full flush of the dazzling sun, the new wind, the surge of fresh life in all things living. Gulls call more raucously and begin to dive after mullet, sanderlings grow bolder by the minute as they play tag with sheets of spreading and receding foam, and fish everywhere begin to bite ravenously. The tide is crashing full now and all is excitement. The scene is overpowering.

But morns are not only beautiful on the beach. Talk to the waterfowlers who wait patiently in their blinds in the marsh country and see what they say. Talk to the early-morning squirrel or deer hunter. Talk also to the turkey hunter, trout fisherman, bird watcher. Talk to those who venture out early and stick it out till the shadows fall. They will tell you very much the same

(Continued on page 12)

LETTERS

Poem Describes Augusta County Home

I WROTE this poem after I had visited my in-laws for the first time in Augusta County. The house really stands on a perfect round hill and the country is beautiful. We were sitting on the porch one morning and saw a deer with her fawn crossing the meadow and I guess we watched them for one half mile.

I love to go up and visit. There are no lights, except oil lamps, or running water. Believe it or not, it's a pleasure to do without both of these to enjoy the peace and beauty of a mountain home. I know this poem is true of many homes in the mountains:

Home on a Hilltop

The leaves are gone, the fields are bare,
But I know my home is waiting there.
A home so small and yet so huge
It always can manage to make more room
For folks who come in summer to stay
And come to hunt on a cold winter's day.

If you sit on the front porch just after dawn
You might spot a deer with a wee fawn.
Crossing the meadow, cautiously slow,
For fear of her little one meeting some foe.

I wouldn't trade places with any I know,
When I stand on my hillside and look down
below.
Below on the meadows and up at the sky,
With the mountains around me standing high.

God made this hill with loving care,
He knew my dad would build a home there
A home who welcomed all who came,
And seems to say, "Please come again."

Mrs. Dorothy Van Fossen
Colonial Heights, Virginia

Pollution Abatement "Glamorized"

YOU are certainly due congratulations for the use in your November issue of Mr. Ben E. Gregory's article, "Richmond's Great Pollution Abatement Move." We feel your readers will gain new knowledge and interest in pollution abatement—a subject most difficult to "glamorize"—and will begin to think of sewage treatment in terms of what it means to fish and wildlife supplies. This type of article in the state conservation magazines is a great help to the aims and objectives of our Division of Water Supply and Pollution Control in the Public Health Service.

Juanita Mahaffey
Divison of Water Supply
and Pollution
U. S. Public Health Service
Washington, D. C.

Tar Heel Compliment

I WANT to compliment you on having such a fine magazine—photographs and art work in it are really well done. It is a most attractive magazine and good reading, too.

Mrs. Eugene Berry
Jacksonville, North Carolina

Inflation vs. the Virginia Commission of Game and Inland Fisheries—

YOUR GAME COMMISSION FACES A FINANCIAL DILEMMA

By CHESTER F. PHELPS
Executive Director

THE year 1959 was one of the most productive for Virginia sportsmen in modern times. Good spring brood stocks of turkey, quail, and grouse, coupled with good weather during the summer, resulted in high populations of game birds for the "feather man," and excellent harvests of all three were accomplished. The mushrooming deer herd, so carefully managed and protected since the late 1930's, provided deer hunting in almost every county, and a record take of 30,000 whitetails is expected. The bear harvest increased, too, and our research on this species is building a solid foundation for future management. All species of small game, big game, and game birds were plentiful, and the recreational opportunities they provided were not overlooked by our sportsmen.

In fishing, too, the picture was equally bright. Here, research is also forming the basis for the better management of all of our public fishing waters.

An abundance of game to hunt and fish is of prime importance, but of nearly equal importance is a place to go hunting and fishing. In this respect, too, 1959 was a most satisfactory year. Through land purchases and cooperative agreements the amount of land sportsmen had at their disposal rose to almost 2,000,000 acres of public land. The purchase and development of public boat landings on the Shenandoah and James Rivers also made these fine fishing waters more accessible.

This year, however, we are facing a financial dilemma. Inflation, coupled with demands from sportsmen for increased hunting and fishing opportunities, has presented the Commission with a double-barreled problem. Rising costs have upped our maintenance and operating expenses to the point where income from license sales won't begin to match these annual expenses, without even considering a capital outlay program. Last year expenditures exceeded income by $157,000 and the fiscal year ending July 1, 1960, will find us cutting down our cash balance by another $200,000 in order to meet current obligations.

The other part of the problem is what is becoming our inability to take advantage of opportunities now and in the next few years to provide even more places to fish and hunt, and even more fish and game to pursue—this in the face of the rising tide of population!

The timing cannot be changed. The opportunity to act is now.

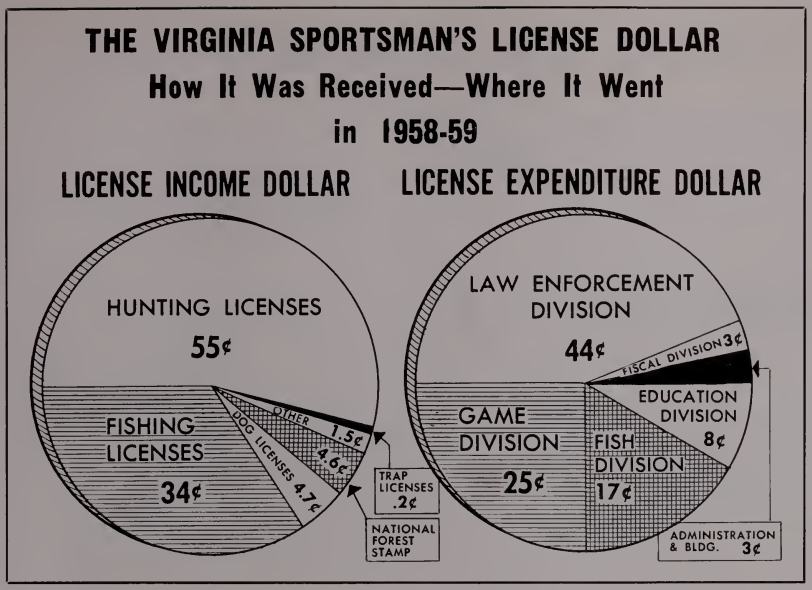
Some background information on maintenance and operating costs will make the picture clear. Although the story is well-known to all householders, the costs of living and doing business have been steadily climbing. But there has been no general increase in hunting and fishing license fees since 1948 and the one-dollar county license has been in effect for more than 30 years. In the Commission's operation, for example, the total salary of one group of employees has almost doubled in the past 10 years, while the number of employees increased only 13 percent during the same time. Fish food costs for our hatcheries have definitely *doubled* in the past *three years*, and costs of all supplies and services have followed the same familiar pattern.

To cover these expenses, the Commission receives about $1,800,000 annually from the sale of the various licenses and permits. Many sportsmen do not realize the Commission is entirely self supporting and *does not receive a single penny from the general tax fund.* Our expected deficit of $200,000 this year is being covered from our bank balance which is in excess of $1,000,000 at the present time but for good business reasons we must keep not less than $1,000,000 at all times. This is because most of our revenue is received from October to December and during the other quarters of the year our expenses are more than receipts. For example, in the first quarter of 1958 we received about $300,000 but spent $900,000. Therefore, it is necessary to maintain a sizable bank balance, or revolving fund, in order to carry on operations during the "lean" part of the year. Another matter to consider is the fact that the bank balance now on hand was accumulated in two ways—one was because of the great increase in license sales immediately following World War II, the other through sale of some properties several years ago. The rate of increase in license sales has now leveled off and the Commission doesn't plan to sell more property so no further opportunity exists for capital accumulation.

How much increase is needed to stop the deficit in only maintenance and operating expense? Approximately $200,000 per year now, probably more in the future if inflation continues. The only alternative is reduction in programs and services.

Let's look closer at some of these programs and services that would be affected.

An important aspect of the Commission's work has always been the enforcement of fish and game laws. The law enforcement division has made steady improvement in its efficiency and service. Game wardens have been given additional responsibilities, and most have been completely relieved of county dog law enforcement work. To date, 66 of the 98 counties have relieved the game wardens



Your game commission receives about $1,800,000 annually from the sale of licenses, but does not receive a single penny from the general tax fund.

of dog work and more are expected to follow. This means that where relief was effected, the game wardens are doing 100 percent fish and game work for the first time in history. Game wardens are also better dressed, have been equipped almost 90 percent with two-way radios, and have been provided boats, outboard motors, and foul-weather apparel where needed. Harnessed to effective use has also been a modern, water-based aircraft.

Another service that comes out of the sportsmen's dollar is information and conservation education. This long neglected aspect of the Commission's program is now getting fully established and receiving good public acceptance. Virginia Wildlife magazine and other publications, press releases, motion pictures, teacher workshops, and school and camp programs are all filling a vital public service need within the Commonwealth. The annual essay contest has made conservation meaningful to some 200,000 Virginia youngsters within the past 13 years.

Fish management and research, a comparatively recent program, has general aspects. The raising of trout and the stocking of 141 trout streams and 3 lakes annually has been basic but work is also being done on stream improvement. Research, too, is pointing the way toward larger trout at less cost and to more equitable stocking practices. Research is being conducted also on small ponds in order to find better ways to help the thousands of owners manage their ponds. Statewide surveys are being made of the larger lakes, ponds and streams—an activity that will improve fishing by drainage, rough fish removal, and regrouping of desirable fish. Fish biologists are constantly on the lookout for newer and better fish for public waters. This interesting new field was opened by the introduction of threadfin shad into our large public impoundments. The shad serve as food fish for the desirable game species. The new striped bass (rockfish) fishing in Buggs Island Lake is developing and with proper management offers an exciting future. White bass have been successfully introduced in Claytor Lake and are expected to contribute a great deal to future fishing success.

Game biologists, too, are studying and stocking new species. Through a program planned and fostered for more than 10 years, Virginia has led the entire country in making the first significant releases of Iranian black-necked pheasants. Perhaps this pheasant, too, will not succeed in the South, but it looks encouraging—and other new birds are already in our experimental game farm pens.

Habitat improvement for farm game throughout the state has annually provided some 6,000 landowners with seed mixtures and advice on planting and management. For years Commission biologists have planned, constructed and maintained the network of habitat improvements and developments that have assured a continuation of good hunting on 1,600,000 acres of public forest land.

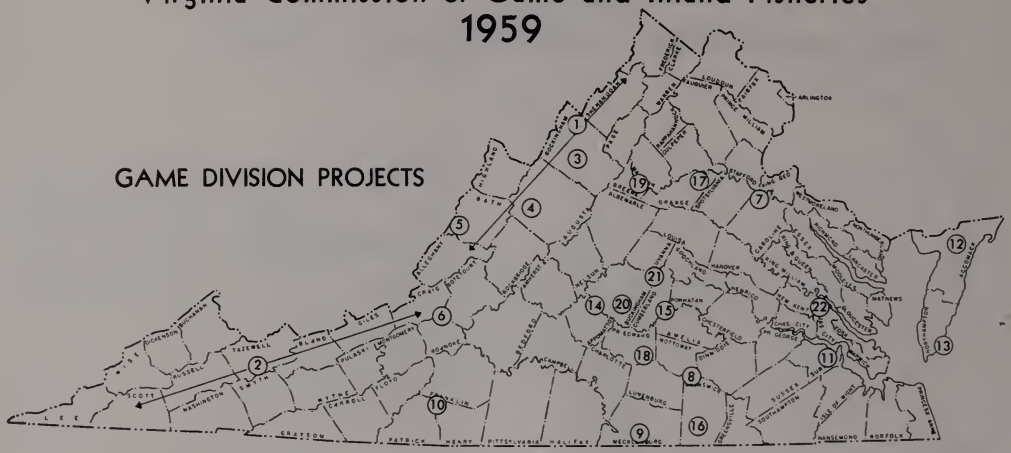
These are but a few of the every-day services and programs being executed by law enforcement officers, game and fish biologists.

Problem No. 2 involves the opportunity—which exists now but will be much less 10 years from now—to provide tangible benefits for present and future sportsmen in the form of hunting lands, fishing waters, and access areas . . . in other words, capital investment and developments.

In the last 36 months your Commission has spent $832,855 for just such tangible properties for the long-term benefit of the sportsmen of today and tomorrow . . . areas like Saxis Wildlife Management Area, Mockhorn Island Wildlife Management Area, the 18,500-acre Gathright

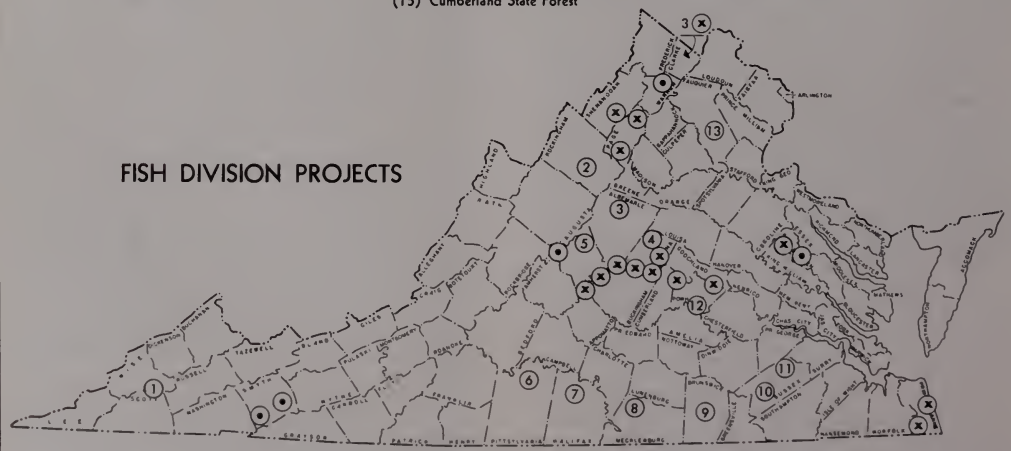
CAPITAL OUTLAY PROJECTS
of the
Virginia Commission of Game and Inland Fisheries
1959

GAME DIVISION PROJECTS



(1) George Washington National Forest
(2) Jefferson National Forest
(3) Wunder Mgt. Area
(4) Little North Mtn. Mgt. Area
(5) Gathright Mgt. Area
(6) Havens Mgt. Area
(7) Camp A. P. Hill
(8) Camp Pickett
(9) Kerr Reservoir Mgt. Area
(10) Philpott Mgt. Area
(11) Hog Island Refuge
(12) Saxis Marsh Mgt. Area
(13) Mockhorn Island Mgt. Area
(14) Buckingham-Appomattox Forest
(15) Cumberland State Forest
(16) Union Bag-Camp Coop Area
(17) Goodwin Bros. Coop Area
(18) Prince Edward State Forest
(19) Ward-Rue Coop Area
(20) Lee Experimental Forest
(21) State Game Farm
(22) Walkers Marsh

FISH DIVISION PROJECTS



(1) Scott-Wise Pond
(2) Lake Shenandoah
(3) Lake Albemarle
(4) Fluvanna Ruritan Lake
(5) Nelson County Pond
(6) Lake Burton
(7) Lake Conner
(8) Lake Gordon
(9) Brunswick County Pond
(10) Airfield Pond
(11) Game Refuge Pond
(12) Powhatan Lakes
(13) Lake Brittle
(•) Fish Hatchery
(x) Public Fishing Access Points

Wildlife Management Area, the Nelson County Lake, Lake Shenandoah, Scott-Wise Lake, and developments such as food and cover plantings and waterholes made for game and roads and trails made for sportsmen on state and national forests, military reservations, and other areas open to the public.

All the land purchases are important, even though they represent only a fraction of the state's total land area. They are *key* wildlife areas and access ways to public lands and waters. The development of the lands and waters increases fish and game production and harvest.

Virginians are practical people, and practical is what the Commission wants to be, too. Provided the necessary income is made available, programs now underway will be continued. Key areas will be studied for possible fishing lakes. Public rights of way into good fishing waters and hunting lands will be acquired. Additional public hunting lands will be purchased. Waterfowl areas for both public hunting and for refuges are sorely needed now. Development programs will be expanded on public lands to increase game and fish production. Good law enforcement can be made better and more efficient with radios and other equipment. The opportunities are unlimited.

The money needed for a continued capital outlay program that would be both practical now and appropriate for the future would approximate $500,000 annually for several years. The question is, Where would the money come from?

The game commission is supported by only those who purchase hunting or fishing licenses, and by no one else. Therefore, it is up to the hunters and fishermen to determine what the game commission's program shall be. They must decide whether or not they want the present program continued.

In summary, the situation is this: Your commission is now spending more than it receives on the current game and fish program. Its cash balance is steadily being reduced and the danger point is fast approaching. Since the commission is supported solely by the sportsman's dollar—license fees—the only alternatives are to cut the current program or raise license fees which have not been increased for ten years. In the case of the one-dollar county resident hunting and fishing license (which includes a free deer, bear, turkey license), there has been no increase for a generation. The continuance of a progressive game and fish program is in the hands of the people it benefits and who support it—the sportsmen. Which way do you want us to go?

Dr. Rains Relinquishes Commission Post; R. R. Guest Appointed

Dr. Warren B. Rains has relinquished his post as a member of Virginia Commission of Game and Inland Fisheries from the Eighth Congressional District. He was appointed to the Commission in 1944 by Governor Colgate W. Darden, Jr., and received several reappointments by succeeding governors.

Governor Almond accepted Dr. Rains' resignation in December with regret.

A staunch supporter of wildlife conservation measures and an ardent supporter of conservation education, the cheerful and always pleasant practicing dentist from Warsaw, in the Northern Neck, will be greatly missed. His many friends within and without the Commission not only wish him well but also hope that he now will have the long-hoped-for time to devote to his practice, family and his beloved mallard shooting on the Potomac.

Raymond R. Guest, named to fill the unexpired game commission term of Dr. Warren B. Rains.

Former State Senator Raymond R. Guest was named by Governor Almond to fill Dr. Rains' unexpired term, which runs to January 30, 1962.

Guest, now a farmer and horse breeder in King George county, represented Rockingham, Harrisonburg, Page, Warren and Rappahannock counties for several years. He then lived in Warren County.

The new game commissioner was born in New York on November 25, 1907, and has a B. A. degree from Yale University. Married to the former Elizabeth Polk, he is a veteran of World War II and is now a commander in the U. S. Naval Reserve.

He is a member of the Episcopal Church, having served as vestryman at White Post, and also belongs to the American Legion, Veterans of Foreign Wars, and Kiwanis.

He was a member of the state senate, representing the twenty-fourth senatorial district, from 1948 until 1952, during which time he served on the senate's game and fish committee.

The eighth congressional district includes the counties of Albemarle, Caroline, Culpeper, Fauquier, Fluvanna, Goochland, Greene, Hanover, King George, King William, Lancaster, Loudoun, Louisa, Northumberland, Orange, Prince William, Richmond, Stafford, Spotsylvania, and Westmoreland.

Our Waterfowl Responsibilities

By ROSS L. LEFFLER
Assistant Secretary of the Interior

IN this discussion, I want to deal not only with the responsibilities of our various professional conservation agencies, but also with the obligations which must be borne by the public if we are to have good husbandry for the resource upon which such an important recreational activity depends. By the public, I mean all people interested in wildlife resources in one way or another.

This is a timely subject. We're now in the annual period for gripes about the restrictions in the waterfowl hunting regulations. This occurs both in the lean and the fat years. No matter how much you liberalize, there are some who still complain each year.

For this complaining citizen there are just two courses of action: Either acquaint him with the plain facts of life about waterfowl conservation so that he will see how much disservice he is doing the cause of hunters generally, or just forget about him and keep conscientiously on your sound management course. I prefer the former because we need every ally we can get in our business; and a reformed character, you know, is always a real evangelist. Besides, we have a basic obligation in government to provide people with a clear understanding of our conservation program.

The Current Situation

Let's take a look at the current situation. We're now dealing with a declining waterfowl population. Drought conditions in the main "duck factory" in the prairies expanded drastically this year. Many birds were forced out of their regular nesting territory and moved northward into lower quality range where they would be expected to produce fewer young under the best conditions. But, this year they encountered unfavorable weather in the north and even fewer young could be produced.

The Fish and Wildlife Service's Bureau of Sport Fisheries and Wildlife conducted its usual comprehensive nesting ground surveys—inventories of production demonstrated

Talk given before the Southeastern Association of Game and Fish Commissioners at Baltimore, Maryland, October 26, 1959.

Commission Photo by R. L. Crawford, Jr.

The Fish and Wildlife Service seeks to provide maximum opportunity to hunt and otherwise enjoy migratory birds, but its first responsibility is to guarantee the preservation of the resource. That is why sportsmen—such as this one waiting near Walkers, Virginia, for ducks to come up the Chickahominy River—are limited to three ducks per day this year.

statistically adequate to indicate correctly the kind of a crop to be expected for the hunting harvest.

Calling a spade a spade, the Service then forecast a serious decline in the supply of birds from the high of several years ago and recommended conservative seasons in order to return an adequate supply of nesters to the breeding grounds to implement the waterfowl recovery when conditions once again become favorable. There was consultation with flyway councils and with other advisers, and discussions with Canadian officials. Finally, the regulations were adopted. In addition to shortened seasons, increased restriction was placed on the take of canvasbacks, redheads, and ruddy ducks which are especially seriously hit.

As expected—because it always has happened—there were some complaints. Numerically, the complainers were not many; but they were vociferous and sometimes vitriolic. Obviously, the critics did not have the true picture of the situation and apparently some of them did not want it. I might inject here that all information we have received to date about the fall flight has confirmed our original forecast.

The worst part of all this is that some good sportsmen also get confused by the cross-fire set off by these complaints and lose their enthusiasm about seeing to it that people generally obey the rules of harvest. Of course, that suits the "game hogs" fine. Their strategy of divide and conquer is then succeeding.

The Service's Responsibilities

It is the legal responsibility of the Fish and Wildlife Service to guarantee the preservation of the resource; it also conscientiously seeks to provide maximum opportunity to hunt and otherwise enjoy migratory birds within the limits offered by that basic premise. It is also my conviction that—professionally—state and federal attitudes about this cannot be anything but alike. Providing maximum enjoyment from greatest possible abundance of a renewable resource is the principal objective we all have.

The Service also has the responsibility to conduct and coordinate the waterfowl surveys which are necessary to guide the development of management regulations. As in many other areas, we share the task with other government and private agencies. We have made and we will continue to make every effort to improve the machinery we use for this process. However, I do not need to tell you that it is the best system physically possible at this time; and it adequately forecasts all significant general changes in population, which is what we need when restrictions or liberalizations are called for in periods of shortages or abundance.

The Service also has a duty to provide better public understanding of current waterfowl situations and the system used to reveal them so there can be general support for the good management called for. Despite the increased and very successful efforts we are making in this direction through conservation education, this is too big a job for the Service by itself.

The States' Responsibilities

State fish and game departments and private waterfowl organizations must make it their responsibility to conduct similar educational efforts so that citizens who are interested in the resource will recognize that we're all playing on the same team, and that we all have the same objectives for waterfowl management. Together, by telling enough people the story, we'll finally be able to get the public to realize that we are dealing with fish and wildlife facts and not propaganda and pressures. Then we will achieve public understanding of the role of the Service and the states in waterfowl management activity, and selfish critics will find it impossible to get audiences for their harangues.

There's more to this problem of meeting our waterfowl responsibilities than just achieving general understanding and support for our systems of evaluating annual production and converting it into framework of hunting seasons and daily bag limits. There is also a problem of getting complete enforcement and observance of the basic rules of hunting which are involved, rules which have been established on the basis of past experience to avoid excessive harvest of local populations and also to prevent the taking of an unfair share of the harvest by a selfish few.

Baiting A Serious Violation

Perhaps the most serious breaking of these rules of the game is baiting. Although they view with horror the idea of jacking deer, using salt licks and other illicit practices for taking resident game, some people feel waterfowl are their special property and they constantly press for and frequently practice baiting. Why? The simple reason is so they can get more than what would be their fair and normal share. You can be mighty sure that, having broken one law by baiting, these people are not going to worry much about breaking another by exceeding the limit. All this sets up a favorable climate for game pirates to sell their services for illicit practices and lends them encouragement in attempts at market gunning. The duck hunter who baits under such circumstances really deserves no consideration. Let's not give him any.

I sometimes wonder, as we note more and more evidence of excessive gun pressure in this flyway with its great urban centers, if the baiters are not just tipping the scales against us in our annual effort to return an adequate population to the nesting grounds and thus change the unfavorable trend in waterfowl which we have noted here for several years. We must awaken people to this threat and get public help in bringing to time the selfish group which is plundering the waterfowl resource.

Education Efforts Important

The Service is most grateful for the assistance it is receiving from State conservation departments in carrying on the battle against the baiters. Here again, the big job is education. I'm confident that once our people understand what baiting is actually doing to this wildlife resource, there will be no sympathy for anyone who continues to practice it.

Yes. All of us do have responsibilities to be met if we are to continue to enjoy waterfowl hunting—a sport not just for kings but for all people in America. Let's take a close look at these responsibilities. They exist for our Fish

Commission Photo by Kesteloo

Crippling losses, which mean wasted birds, can be reduced by the use of a good retriever.

and Wildlife Service, for the 50 States, and most of all for people generally.

In the final analysis, public responsibility, unquestionably, is the most important of all for upon it depends whether or not we can implement the waterfowl program. Only with public help is successful waterfowl management possible. But, I believe we can secure that public support if you and I, the states, the private conservation agencies, and the federal government work effectively together as a team to meet our waterfowl responsibilities. Let's each one of us make sure we do just that.

Analysis Shows Heavy Hunter Effect on Canvasback Ducks

The annual mortality rate of canvasback ducks during their first year of life is 77 percent; hunting was responsible for at least two-thirds of these deaths.

More than half of the canvasbacks of all ages which died each year died as the result of being shot.

Hunting regulations definitely influence the size of the kill.

The shooting mortality of immatures of both sexes and adult female canvasbacks is relatively higher than that of adult males earlier in the season. The kill of adult males becomes relatively more important late in the season. There is an indicated higher mortality rate in females than in males both from hunting and from natural causes.

These were the conclusions reached by a research project recently completed by the Fish and Wildlife Service, the Department of the Interior reports. They were based upon an analysis of three decades of bird-banding records and upon various biological studies made on canvasbacks in recent years.

Banding records extending over a period of 30 years show the effect of hunting regulations upon the kill. A study of banding records for Louisiana covering the period from 1929 through 1941 shows that by far the greatest percentage of bands recovered came during 1929 when the bag limit was 25 and the season length over 100 days, and that the band recovery rate was correspondingly lower in periods of lower bag limits and shorter seasons. Michigan bandings for seasons of varying length, but of identical bag limits, show that band recovery was substantially lower during the years of shorter seasons.

Bands returned for the 1958-59 season, when the shooting of canvasbacks was curtailed in the Central, Mississippi and Atlantic Flyways by a reduced bag limit and also a shorter season in the Atlantic Flyway, show a substantial reduction in the recovery of bands from birds banded in Maryland, Delaware, Manitoba and Saskatchewan but no reduction in birds banded in New York. The distribution of band recoveries indicated an increased kill in New York. This could be due to the late freeze-up in the Finger (canvasback) Lakes which permitted concentration of hunting on canvasbacks.

The analysis completes a comprehensive study of the canvasback population and band recovery data on file at the Patuxent Research Refuge of the Bureau of Sport Fisheries and Wildlife. The first portion of the study was released last year.

Virginia to Receive $383,000 in Wildlife Restoration Federal Aid Funds

Virginia's share of federal Pittman-Robertson Act and Dingell-Johnson Act funds for fish and wildlife restoration for the fiscal year ending June 30, 1960 will be $382,723, some $22,268 less than the state's 1959 fiscal year federal aid total.

The Virginia apportionment, collected by the U. S. Treasury from excise taxes on sales of hunting and fishing equipment throughout the U. S., amounts to $81,724 for fish work and $300,999 for game work, compared with last fiscal year's $77,320 and $327,671 apportionments for fish and game, respectively.

The five-and-a-half percent decrease is due to a slight drop in excise tax collections and a large increase in the amount apportioned to Alaska.

Virginia received its 1960 apportionment from a total of $20,612,778 on the basis of a formula that considers the area of the state and the total number of licenses sold. Under the terms of the federal aid acts, approved projects are conducted with state funds and the state commission is then reimbursed for 75 percent of the cost of each project from the Federal Wildlife Restoration Fund.

How to avoid—

GETTING LOST!

By RAYMOND SCHUESSLER
Buffalo, N. Y.

Commission Photos by Harrison

THE woods is a beautiful place full of treasures, adventure, and natural beauty. But it can be a fearsome and terrible place when we are lost, and darkness and panic descend.

Let us hope that you will never get lost. But in case you do, wouldn't it be a good idea to know how to get along until you are found? Or better yet, to know enough about wood lore so as to not ever get lost?

First of all, when going into the woods try to travel in parties of three or more persons. This will not always be possible, since there will be many times when you will want to hunt or fish alone, and many times when you will go skiing or hiking alone because there is no one to go with you.

If you spend much time in the woods, sooner or later you will get lost. Maybe it will be for only a few minutes or hours, but you may even have to spend the night in the woods.

The real danger in the woods when lost is not man-eating bears, snuggling snakes, weird witches or garrulous goblins; the only real danger is yourself—PANIC!

If you become terribly frightened and full of fear, you will probably do the worst things possible. All evidence of fatalities in the woods shows that panic preceded their tragedy.

What is panic? Panic, someone once said, "is when your heart is in your mouth, and your brains in your heels."

So, the first thing to do when you suspect you are lost is to be calm. Sit down and begin to think logically. Ask yourself: "Does anyone know about where I am, and when I expect to return? Did I take careful notice of my compass when I came in? Do I have matches for a fire in case I must stay all night? How about shelter?"

Be very careful that your pride doesn't take you wildly in all directions as it tries desperately to avoid explaining to all the kids how you did such a dumb thing as get lost. Swallow your pride and stay right where you are until someone comes looking for you.

If you keep moving, you will make the searchers' task much harder, and you might be lost for two or three days instead of two or three hours. Don't go on unless you are very sure you can work your way out.

The best thing to do, however, is to learn how not to get lost in the woods. Here are a few important precautions.

When planning your trip, get good maps of the area you plan to visit. Then take a little time to learn how to read these maps.

Most of all, learn how to use a compass with ease and accuracy. Use your compass when starting out, to observe the direction from camp to your objective. Then note what your reverse compass bearing should be to return to camp. Have faith in your compass.

Always tell someone where you plan to go, or at least in the general direction in which you'll travel, and when

When you suspect you are lost, be calm. Sit down and think out your situation. If you keep moving, it will make the searchers' task harder.

"Pushing the panic button" will burn up your energy and get you no closer to your destination.

you expect to return.

When entering the area where you plan to camp, hunt, fish or ski, study your maps of the area and take careful observations. Note the location of bodies of water, directions the rivers' flow, general character of the drainage, prominent landmarks (especially conspicuous hills or mountains) and main roads and trails.

Your first trip should be to some high spot for a bird's eye view of the surrounding country.

Always carry map, compass, matches, and knife or hatchet with you.

To avoid traveling in circles, practice projecting a straight line through the woods by sighting on two objects in line ahead of you. Walk to the first and sight a third object, and continue the procedure.

If lost, do not struggle on until dark. Stop in time to have two hours of daylight to make yourself comfortable for the night. Your probable needs: water, fire (all night) windbreak, shelter, and bed.

Learn to tell direction by the stars. Natural compasses are the tops of the higher white pines and hemlocks. They usually lean in an easterly direction.

Following downstream is one method of working your way out if your camp or other camps are located on the main river or lake of the region.

Lastly, be confident you will be found. Remember the old timer who was asked if he had ever been lost. He paused reflectively, then drawled, "Well, no . . . but once I was badly bewildered for three days!"

EDITORIAL (Continued from page 3)

thing. The force that draws them into the out-of-doors, and holds them there, is not just the fish and the game, but something far more meaningful, far more satisfying.

Just what it is we can't explain fully. All we know is that whatever it is, it's worthwhile, and money can't buy it. Call it a thing intangible; call it man's need for refreshment, the music of the hounds, seeing good bird dogs work, getting back to nature, or what have you. The important point is that it is there and it is free.

The hunting and fishing license you buy gives you some tangible benefits, it is true. And this is necessary if our traditional sports are to continue. But what we must also realize is that what we gain in the so-called *intangibles* is just as important, if not more so, than what we get in immediate visible returns. Furthermore, unless we support our management and conservation programs aimed at the tangible benefits, we may not have the other benefits to enjoy for long either. For, as the Scripture says, Man does not live by bread alone, but also by the spirit. Perhaps the "reducing of legal game and fish to one's possession" is not the real *product* of good game and fisheries management, but only the *byproduct*.

One of our great needs today is occasional detachment. Pressed by our mass-man ways of living, we need to have opportunities for breaking away. Although one does not think about it much, it is easy to perceive that *attachment*, especially for the material, is the one thing that makes our world narrow; *detachment* is what helps make it broad. The busy man who detaches himself for awhile from his work and goes hunting or fishing, even if he gets nothing, is a much better man for it—be it in business, in the home, or in the community.

Fish on the beach, a buck on the rack, game birds in the bag—all these are but byproducts of our privilege to take part in hunting and fishing. The real product is the peace of soul we gain when, consciously or subconsciously, we recreate or meditate in the great garden of the out-of-doors—the physical, mental and spiritual uplifting we gain by being present in His Garden.—J. J. S.

SLIGHTLY HIGHER HUNTING AND FISHING LICENSE FEES FOR ALL PROPOSED. A "package" of recommendations to be submitted to the General Assembly, asking somewhat higher fees for both county and state hunting and fishing licenses, was agreed upon as the answer to its financial difficulties by the state game commission December 11 in Richmond. Adoption of the proposal would mean that both the one-dollar county combination hunting and fishing license and the free county deer-bear-turkey license would be eliminated, that separate county fishing and county hunting licenses would be sold for two dollars each, that the state fishing license would cost the same as the state hunting license ($3.50), and that a 25-cent issuance fee would be added to the price of all licenses. The commission hopes to boost its annual income, derived solely from license sales, by some $500,000 to cover the increase in its costs of operation since the last general license fee increase in 1948.

WESTERN VIRGINIA DEER KILL CLIMBS TO 15,688. The western Virginia deer harvest is still on its way up. Where less than 2,000 whitetails were taken 10 years ago and 13,463 were bagged in 1958, a record 15,688 were checked in during the recent November 16-21 season west of the Blue Ridge. Biologists say another 5,000 could have been taken this year without hurting the mushrooming herd.

FIVE ELK BAGGED DURING VIRGINIA'S 1959 SEASON. Five bull elk were taken in Giles County during Virginia's three-day elk season last November 16-18. Fewer hunters was the reason given for the drop from the elk kill of 12 recorded during the 1958 elk season.

SALES OF HUNTING, FISHING LICENSES LEVELING OFF. The number of hunting and fishing licenses sold in the Old Dominion has leveled off, and is now increasing at the rate of only two or three percent each year, according to the game commission's summary of licenses sold by clerks and agents between July 1, 1958 and June 30, 1959. Some 862,600 licenses of all kinds were sold during that period for a total of almost $1,800,000, eight percent over the previous fiscal year's sales but not increase enough to match a nine percent increase over the same period in the game commission's maintenance and operation costs. The $131,000 increase came about partly because of the introduction of a new trout license. Some 67,000 one-dollar resident and 1,200 five-dollar nonresident trout licenses were sold, providing some $73,000 to help continue the state's trout stocking program. Sales of the $1.50 three-day fishing license, which became a resident as well as a non-resident license in 1958, went up 78 percent to over 17,000, but this gain was erased by a 29 percent drop (to 2,800) in the number of ten-dollar nonresident fishing licenses sold. Because turkey hunters as well as bear and deer hunters had to buy big game licenses last year, the sales of both state resident bear-deer-turkey licenses (101,000) and nonresident bear-deer-turkey licenses (7,300) increased by 11 percent. Providing some additional income to the game commission were national forest stamps (87,000 sold; up six percent), county resident hunting and fishing (234,000; up three percent), state resident hunting (171,000; up three percent), nonresident hunting (10,000; up six percent), and the state resident fishing license (144,000; up two percent).

This aerial view of Impoundment No. 2 shows solid stands of Japanese millet in the foreground and in the background.

Water level of Impoundment No. 2 is lowered below tidal level with 12-inch, 3,000 gallon-per-minute pump (above); platform, winch, and cable arrangement (right) is used to open and close impoundment flap gates.

A "marsh buggy" with special tracks and a three-point bush and bog disk is used to disk marsh to retard growth of cordgrass and allow desirable waterfowl food plants to come in.

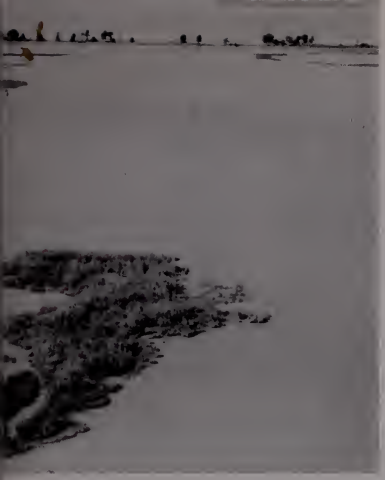
Ducks (foreground) and geese (left center) [illegible] Hog Island State Waterfo[illegible]

Hog Island Deve[illegible]

Commission Pl[illegible]

The Virginia game commission's [illegible] 2,100-acre Hog Island State Waterfowl [illegible] dividends. When purchased by the C[illegible] tracting fewer than 100 geese and 500 [illegible] marsh waters, favorite waterfowl food p[illegible] was given the birds. Now refuge mana[illegible] geese—Canadas plus a few snows and [illegible] the intensively-managed area, and wat[illegible] River outside of the 1,000-yard sanctua[illegible]

Disking field in preparation for plant[illegible]



shown on Fishouse Boy, o tidol pond in
efuge in Surry County.

opments Pay Off

by Kesteloo

erfowl habitat development work on
fuge in the James River is paying big
mission in 1951, Hog Island was at-
ks. Dikes were built to stabilize tidal
ts were sown, and complete protection
Warren H. Taylor reports that 7,000
es—and 8,000 ducks are wintering on
owl hunting, permitted in the James
around the island, has improved.

rye gross for winter goose posture.

Controlled impoundment is seeded to Japanese millet; native millet grows along edge of pond; field at right is planted to ladino clover.

Game research biologist and wetlands project supervisor Charles P. Gilchrist, Jr. (above) examines the seeds of the common millet (*Echinochloa walteri*); refuge manager since June, 1955, has been W. H. Taylor (left).

Spreading fertilizer and harrowing before planting winter wheat. Seeding of Japanese millet in ponds is done with an electric drive cyclone seeder mounted on a marsh buggy.

WILDERNESS . . . and the southeastern wildlifer

U.S. Forest Service Photo

Old hemlocks and an undisturbed understory typify the wild Heart's Content Area in Pennsylvania.

By ROBERT H. GILES, JR.
District Game Biologist

"I BELIEVE that at least in the present phase of our civilization we have a profound, a fundamental need for areas of wilderness—a need that is not only recreational and spiritual, but also educational and scientific, and with all essential to a true understanding of ourselves, our culture, our own natures, and our place in all nature." When Howard Zahniser made this statement, he summarized for many people the need for wildernesses. Even the eloquence with which he writes cannot produce for us the entire picture of wilderness, its needs, potentials, and demands. What he has left unwritten is for the individual; in wilderness there will always be more than will be expressed or completely understood.

The recent emphasis on wilderness and its preservation has been occasioned primarily by Congressional debate on the Wilderness Bill. Never before has so much vocal public opinion been built on natural resource legislation. The remarkable interest in this phase of the conservation movement has several implications for the wildlifer, the most important of which is the need for deciding just what is our place on the bandwagon, and what part, if any, we shall play.

Paper presented at the Southeastern Association of Game and Fish Commissioners meeting at Baltimore, Md., October 27, 1959.

A definition of wilderness is difficult, if not impossible, for wilderness is many things to many people. I define wilderness as an advanced-succession community in which flora and fauna exhibit natural relationships and in which modern man (as differing from aboriginal man) has had basically no influence. With such a definition established, we can proceed to examine the wilderness movement and the responsibilities and opportunities for members of the wildlife profession within the movement.

Many people have an aversion to wilderness. The mere mention of the word causes immediate distasteful connotations of extremism, waste, and special-group interests. It is regrettable that there are parts of the program for wilderness preservation that cause such feelings. Proponents of wilderness and their opposition alike may well examine some of the fallacies of the program. I fear that the same attitude is displayed to proponents of wilderness as to "dicky bird watchers." The latter flippant expression has certain connotations, no matter how unhealthy or undesirable, that are known to all wildlife managers. The ornithologist and the advocate of wilderness have like qualities; they are esthetes and are rarely understood. Those who are not understood will always be criticized. Everyone is not expected nor perhaps capable of appreci-

ating or enjoying classical music; everyone is not expected to hold the same feelings and appreciation for wilderness. All too often the wilderness proponent expects too much of the public. This expectation is an immediate affront, a serious harm to the movement. The attitude of leaders within the movement must be geared to their audience, an audience that is usually the *general* public.

Wilderness and wildlife have in common the problem of economics. The question, "What is the worth of a wolf?" is as difficult to answer as, "What is the worth of a wilderness?" Wilderness has intangible value, and in a materialistic world people "buy" little of what they cannot touch, or eat, or from which they cannot expect financial gain. The profit and practicality of wilderness are difficult to see and consequently difficult to accept. The approach then, to the materialist, should be to emphasize tangible values of wildlife, watershed management, scientific investigation, and man-days of recreation provided.

To the southeasterner, wildernesses and their associated problems seem very remote; in a physical sense they are. Only 13 of the 164 areas covered by the proposed National Wilderness Preservation System lie east of the Mississippi. The majority of the wilderness areas lie west of the Rockies, distant to four-fifths of the population. The proximity or accessibility of a resource naturally influences the interest in and knowledge of that resource. Realistically, location plays little part in the interest and attention such areas deserve. In a world of constantly shrinking dimensions, the difficulty of time involved in travel to wilderness areas becomes of decreasing importance. "Distance" can no longer be the apron behind which wildlifers can hide their indifference to wilderness preservation.

Wilderness Values

Values of wilderness are many and they will be mentioned only briefly. Recreationally, wilderness provides unique experiences of sight, sound, smell, and action. Perhaps recreational values overlap those values often credited to esthetics; this is no disadvantage. Wilderness recreation is unique and as such it demands consideration for an erupting population with individual tastes for recreation. Man the modern seeks and gains recreation with each encounter with the primitive. Rugged individualism, fast waning in the pale glow of the television tube, has no finer forge or furnace than wilderness.

There is a need for wilderness because of its educational value. This value has no dimensions and is difficult to grasp. Bertrand Russell in an essay entitled "Useless Knowledge" elaborates on the current trend to consider that "the only knowledge worth having is that which is applicable to some part of the economic life of the community," and that knowledge is "merely an ingredient in technical skill." This utilitarian point of view of knowledge, and consequently of education, is disquieting, particularly as it relates to wilderness. The educational values of wilderness lie in history, sociology, and science. From the wilderness much can be taught about ways of life, social fibre of citizens, foundations of economy and land development, national and regional maturity and strength, and love of country. These can be learned from books and from teachers, it may be said, but true depth of understanding, appreciation, and enthusiasm will be limited to those who have had wilderness experiences.

The historical value of wilderness is very directly related to our field of wildlife conservation. The disappearance of the cougar or the wolf in the Southeast is an outstanding reflection of the destruction of wilderness. Such widespread losses are easily seen; local changes are seldom if ever detected because of their seeming insignificance or difficulty of measurement. What is the accumulated change? How can we ever know without discerning research on areas as reference points for these changes? Only in the light of the past can we properly evaluate the present or plan for future resource use. All the wildland study of the past will not equip us with data necessary for tomorrow's land management. It is fortunate there yet remains a living history for our study and interpretation.

In the scientific values of wilderness lie the concrete significance which today's people seek and tomorrow's citizens will demand from their preserved areas. Wilderness research will supply data upon which a system of wise land use will be built.

It is my opinion that wilderness has more to offer the profession of wildlife management than any other land unit. Recent renewed interest in "basic" wildlife research has taken a bent toward physiological studies of game animals themselves. This is good, but the "basic" trend should not overlook the needs for knowledge of land physiology and the life histories of "freely functioning" wild populations. It is conceivable that the one constant is wild land. Recognition of the principle that wildlife is a product of the land as used by man, plus realization that this use is the essence of conservation, forces the conclusion that a complete understanding is needed of land and its capabilities. Land capabilities are relative and must be interpreted for the future in the light of the past. The demand for such interpretation far exceeds the supply of data and the knowledge necessary for the task. Today, only generalities can be made.

There is an obvious need for the development of a science of land health in which wildernesses will play a leading role. The father of our profession said " . . . all available areas, large or small, are likely to have value as norms for land science. Recreation is not their only, or even their principal, utility." Dr. Leopold elaborated further saying that the science of land health is yet to be born, that wildernesses assume unexpected importance as laboratories for this study, and that wildernesses are needed as base data of normality, *i.e.* areas for comparing the performance of healthy with sick lands.

What is "fertile" land; what is a "normal" population; what is "over" abundance; what is a "heavy" predator loss; what are the "limits" of intra and inter specific competition; what are (or were) the "natural" causes of population stabilization? All these questions are taken from frequently used statements that are relative. Their answers can only be obtained by relating the unknown with a common denominator. Thus, expressions of resource dynamics must also be relative, and this relation finds its

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Public Hunting on an Industry's Woodland

By GEORGE A. GEHRKEN, *Supervisor, Wildlife Conservation*
Union Bag-Camp Paper Corporation

THE primary use of the land owned by Union Bag-Camp Paper Corporation is the production of wood for lumber and for the making of paper. This company, however, has opened over 25,000 of its forest acres to public hunting and is striving to improve wildlife conditions, as a secondary use of its acreage.

In Virginia and North Carolina, all Camp Division land of the company is open to hunting with no charge made for the privilege. Fifty-five percent of the land, plus some of cooperating, neighboring owners, is assigned to local hunt clubs for their hunting enjoyment. Thirty-five percent of the land is set aside for neighborhood or respective county resident hunting, and ten percent is assigned to the states of Virginia and North Carolina for state-managed, cooperative public hunting.

There are 62 hunt clubs, which have a total of 2,500 members. These members, together with probably an equal number of guests, hunted 17,500 man days in 1958 and bagged 1,550 deer, 10 bear and 4 wild turkeys. These clubs have cooperated with the company and the Virginia Commission of Game and Inland Fisheries in maintaining and improving their hunting areas. They have brushed 48 miles of woodland road rights-of-way and have planted 28 miles of back-sloped road shoulders with game food. They have also cooperated very well in observing the company regulation which closes woodland roads to vehicular use during wet spells. In addition, each club has a fire team composed of some five to 15 young and able fire fighters, willing to suppress fire in their territory should the need arise. Once in 1958, two truckloads of these fire fighters arrived at the scene of a woodlands fire within 15 minutes after they were notified.

Opening company-owned lands for hunting to neighbors and residents of the respective county is a new program this year and at present embraces only two counties. The future of this plan depends upon hunter conduct and local acceptance. The areas assigned to the appropriate departments of Virginia and North Carolina for state-controlled public hunting is according to a plan also experimental in nature.

There is, however, a major concern which may limit the future enlargement of public hunting privileges on large, privately owned acreages, and that is hunter conduct. In some areas our company has found hunter misconduct to be a substantial problem. We must spend large sums each year to construct and maintain the logging and fire protection access roads into our woodlands. Utterly disregarding their own safety and with no regard to the resulting road damage, some hunters have loosened the cable clamps, and have broken gate locks so as to enter and drive cars and trucks upon these roads when they are very wet. The deep ruts, resulting in the roads from such usage, hold water, damage the road bed and require another grading operation before the road can be used for business purposes. One hunter drove a company-owned bulldozer into a deep canal. A hunt club clear cut four acres of young timber to make deer more visible from its stands. Other undesirable actions include in part: telling a forester to work elsewhere, shooting near a drag line operation, blocking company roads and complaining about the noise of a power saw.

Another company reported hunters becoming lost on its land, dirt poured into the fuel tank of a caterpillar tractor, 23 window panes broken in a fire look-out tower, road damage, hunter fire, broken locks and gates, and the theft of gasoline.

This is indeed a very dark picture to paint but it is a true picture in every detail. Because of it, the future of public hunting on privately owned land depends on the action of hunters. There are two possible solutions: one is the education of the hunter and the other is the stricter control of the hunting privilege.

Industry, in this day of keen competition, cannot afford to supervise and educate hunters in the use of land for a non-business purpose. It is logical to think that the sportsmen's organizations could assist the state game departments in influencing and educating the hunters. It is also practical for state game departments to manage the game and the hunters on land which has been made available for public hunting by the landowner.

There are several places where this latter action is being carried out and one is the Brunswick County Cooperative Public Hunting Area, the first cooperative public hunting area in Virginia. A joint experiment by the state and the Union Bag-Camp Paper Corporation, this project is being carefully observed by members of the game commission, by top management of the company, adjoining landowners and other large wood-using industries which, in the aggregate, own about eight percent of the total forest acreage in the state.

The agreement with the game commission on this initial project is in effect until May 1961, at which time the plan will be evaluated and the agreement *continued*, *amended*, or *discontinued*. The action taken by the game commission and the company management at this time will largely depend on the conduct of hunters who have used the area. To date, the relations between the company and the game commission have been excellent and the conduct of hunters using the Brunswick area has been without fault. If this fine record continues, I'm sure the contracting parties will have strong reasons to justify the renewal of the agreement. Later it is possible that adjoining landowners will enter into this or a similar agreement and open their land to public hunting. Such action will not only enlarge the acreage for hunting but will make the area more practicable for management by the state game commission.

Adapted from a talk given at the 10th Annual Convention of the Virginia Division of the Izaak Walton League of America at Natural Bridge, Virginia, October 17, 1959.

Commission Photo by Harrison

Some 1,550 deer were bagged in 1958 on Camp land assigned to local hunt clubs.

The privileges of additional public hunting must be earned by the hunters. Thus, the future of the "cooperative public hunting program" depends upon you and other hunters of the state. The great majority of hunters are good sportsmen, have excellent hunting manners, and are considerate of the landowner. But, of all hunters, one percent or even less than this are poor sportsmen. This minority is inclined to give all hunters a bad name. The other 99 percent should get together and assist the game commission, the landowners, and other sportsmen in educating the wayward one percent. We have the poor sportsmen out-numbered and we have "right" on our side. It shouldn't be too hard to raise the standards of hunter conduct and maintain friendly sportsman-landowner relations. We just have to work harder at it. The prize is greater opportunity for all.

Indeed, the Union Bag-Camp Paper Corporation is extremely interested in being neighborly and in opening its forest land to public hunting. The privilege is one to be earned, however, and not demanded. It is up to the hunters to conduct themselves in a manner that will justify the continuance, perhaps the enlargement, of the present experimental hunting plan of the company.

WILDERNESS (Continued from page 17)

lowest common denominator in wilderness. Many of the needs indicated by Hubert D. Burke in *Wildlife Habitat Research Needs in Southern Forests* will depend upon wildernesses in one or more phases of these investigations. Following questioning of the advisability of continuing a wildlife management program based on so little research (as compared to industries of less worth), Dr. Cottam lists several basic needs of research in the Southeast. In the writer's opinion, any of the 10 problems or needs he lists has a potential research base on wild areas. Wildernesses are areas for land use research that will not only benefit wildlife but all renewable natural resources.

Consider the implications and value of wilderness area data on the following subjects as applied to present southeastern wildlife problems: *Soil characteristics* including water relations, fertility, macro and micro associations, trace element content, and nutrient availability under natural conditions; *forest characteristics* including growth, understory and overstory successions, insect influence, decomposition and soil building, animal relationships, mast production, and tree disease; consider the *characteristics of virgin animal populations* including sex ratios, productivity, breeding characteristics, home range, competition, and local population dynamics.

The pendulum of wildlife management research and interest swings ever more strongly toward water and its management as related to wildlife. Not only are the effects of land encroachment, but of water encroachment, on our wildlife resource daily becoming greater problems. The need for cooperative studies in land use, watershed, and wildlife management looms particularly large in the Southeast where urban sprawl runs rampant. R. D. Dils emphasized the needs for thorough research on the utilization, supplementation, and management of water. He was particularly emphatic about the needs for research into the hydrology of watersheds. Basic ecological studies such as should be conducted on wilderness areas, besides providing essential pollution control information, must discover the significance of natural erosion, of soil water holding capabilities, of relation between atmospheric and ground temperatures and soil, and of fish production, growth, and population dynamics under natural conditions. The needs and the possibilities are great.

Though we already have many designated wilderness areas, there are areas remaining within the U. S. that yet retain their unique primitive character and need legal protection. More important than the designation of new areas is the perpetuation and use of the existing ones.

There are nine U. S. Forest Service Natural Areas east of the Mississippi that have been established primarily for scientific study, investigation, and education. It is regrettable that more study of such areas has not been encouraged. Changes that take place in nature are often so subtle that they go unnoticed for many years. When they are discovered it is frequently too late to properly evaluate either cause or effect. The forest grows slowly, patiently. It is with this same patience that scientists must seek the truths that the wilderness hides by long-range, comprehensive studies. Unless this work is done, there will come a time for shutting the barn door and the horse will be gone.

Wilderness as a land laboratory deserves the support of the southeastern wildlifer. Our support is important because we can see and most effectively express the needs

(Continued on page 21)

Many species of wild waterfowl have been observed resting on the three lakes in Richmond's Byrd Park.

Waterfowl in Byrd Park

By ELIZABETH SHAW

Commission Photos by Harrison

I SAW the wild ducks on the lakes of Richmond's Byrd Park for the first time several years ago. At that time there were 18 ringneck ducks swimming at a safe distance from shore and devouring dry bread crumbs thrown to them by children.

In Byrd Park there are three lakes, each on a different level. The highest of these, a boat lake, is rather shallow. In its center stands a fountain which sends its watery mists high into the air in one continuous stream. This lake is surrounded by a steep bank on which are planted dogwood shrubs and rows of pine trees. A main driveway encircles this lake, from which other roads lead off into the surrounding wooded areas to the next lower lake.

This lake has always been referred to by the bird watchers as "Island Lake." The reason for this name is obvious to anyone who has seen it, for from the center of the lake there rises a small island which domestic ducks, geese and swans use as their breeding ground. These birds are permanent residents of the area, failing to heed the call of their wild "kin" as they go north in the spring and south in the winter.

Island Lake is the deepest of the three lakes in Byrd Park. It is the favorite haven of the winter residents, visitors and accidentals as well as the permanent population of waterfowl. From this lake, water flows over a narrow dam under a bridged road which separates it from the lowest-level Shields Lake. Here many happy hours are spent each summer by children and adults alike, swimming and enjoying themselves at water sports.

The numbers and species of wildfowl wintering in Byrd Park reach their yearly peaks usually at Christmas time. The largest number of individuals I remember having seen at one time is about 300.

Shortly after the construction of the waterfowl sanctuary near Alexandria, the numbers of waterfowl using the city parks lakes began to decline, dwindling until now they average little more than 50 ring-necked ducks and 20 or 30 coots. With these there may be one or two other species. The coots have become more and more numerous as the numbers of ducks decrease. The flocks as a whole keep to the middle lake, except during the early morning hours when they fly to the boat lake to feed. When automobile traffic reaches its peak during the daytime, the birds return to Island Lake. Only a few remain on the other two lakes during the day.

Ringneck ducks are not the only wintering species found on the lakes in Byrd Park, but they are certainly the most numerous. Other species found there regularly are American, red-breasted, and hooded mergansers; the ruddy duck, black duck, redhead duck, lesser scaup, American goldeneye, wood duck pintail, bufflehead, gadwell, shoveller, coot and Canada goose. The pied-billed grebe and horned grebe, along with the laughing gull, Bonaparte's gull, herring gull, and ring-billed gull, are also found here at different times. On one memorable occasion, a common loon rested upon the waters of our own Byrd Park lakes.

At one time a pair of pintails spent the entire winter on the Island Lake, sunning themselves on the outer reaches of the lake, rather than on the island as did the other wild ducks. These streamlined, beautiful birds became quite tame during their stay and were seen frequently picking up the bread crumbs left by passing children.

A pair of red-breasted mergansers, the only ones of that species I have recorded as visiting Byrd Park, found good fishing close by the outer banks. The water was so clear and their method of using their wings while swimming under water so intriguing that many persons came to watch this spectacular display of underwater antics.

The first hooded merganser to visit Byrd Park was a female, coming alone on a stormy afternoon. Sliding down "Jacobs Ladder" she alighted on the only sunlit spot on the surface of the lake. A few days later she was joined by nine more females. I have no record of a male of this species for that season.

Bufflehead ducks prefer the shallow "Boat Lake," swimming single file, wheeling about in unison as a well-trained squad of soldiers might do when given the command by the sergeant in charge.

For the sake of bird enthusiasts, it is regrettable that fewer waterfowl are now wintering on the Byrd Park lakes. Yet for those who do not tire of seeing the same birds over again with occasionally new species dropping in, there is great satisfaction in observing waterfowl in Richmond's city park.

This lad enjoys feeding popcorn to an assemblage of geese and wild coots.

WILDERNESS (Continued from page 19)

and values of wilderness to that segment of the population that does not appreciate wilderness for its scientific value.

The establishment and maintenance of permanent wilderness areas of climax vegetational types assumes importance as a management technique for providing at least seasonal food and habitat requirements for many of the more important game species—bear, deer, turkey, gray squirrel, bobcat, and raccoon. Providing a "habitat refuge" is a passive technique of management requiring no capital outlay and little supervision, but offering possibilities for large forest and swamp management in keeping with the multiple-use concept.

Our Responsibilities

Southeastern wildlifers must be quick to realize that wildernesses are where you find them; they cannot be selected and positioned like picnic tables to meet the demands of the vacationing public. The status quo is all we can hope to maintain; the pristine forest cannot be created. Interest in private and personal gain can often imperil a wilderness because such areas are frequently rich in resources. A quota to make, an access to secure, a fee to gain, an ore to move—all so pitifully small when compared to the total, the long-term benefits and value to be derived from such areas.

Southeastern wildlifers have several responsibilities regarding wilderness which are inherently theirs. As leaders in the conservation movement they must guard existing wilderness areas by their writings, speech and political influence; they must see that areas necessary for the development of a science of land health are available for that developing science; they must encourage scientific studies on existing wildernesses and natural areas not only to discover the secrets of such areas but to show their research potentials as a concrete value; and, they must see that the information obtained is interpreted and applied for the wise use of our renewable natural resources.

Whether the value of wilderness to you is recreational, esthetic, educational, historical, spiritual, cultural, scientific, or all of these, you will agree that any one is justification for wilderness preservation through the active interest and support of the entire field of wildlife management.

New Public Fishing Lake To Be Opened Next Summer

A new 39-acre public fishing lake, just built by the game commission for $62,000 in Nelson County, will be stocked with largemouth bass and bluegill soon and opened to the public after the bass spawn in June.

Completion of the spillway has been delayed by cold weather, but the drain valve was closed on December 7 and the lake is beginning to fill.

Located on Bob's Creek just north of Arrington, the lake is less than 30 miles from Lynchburg via U. S. route 29 and secondary route 655. A half-mile access road leading north from route 655 just east of Arrington will be built to a one-acre parking lot at the new lake. Boats will be available on a rental basis from a full-time concessionnaire.

Bird of the Month:

The Raven

By DR. J. J. MURRAY
Lexington, Virginia

THE writer of the Fiftieth Psalm has the Almighty say, "I know all the birds of the mountains," thus implying that the Creator is interested in the wilder results of His power. That interest in birds of the wild places His human children have always shared.

In the East the raven is a bird of the mountains, where refuge from predatory man can be found. It is not that they scorn human association, if they can just be safe while they share it. In the Shenandoah National Park, where they are protected and where they can feed on the scraps that fall from the tourists' tables, they have multiplied far beyond the numbers of former years.

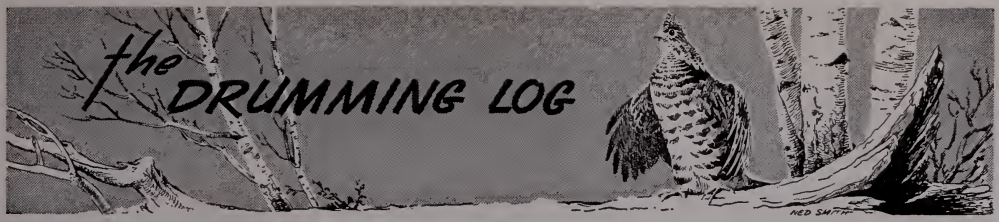
From earliest times men have had a peculiar interest in the raven. Its large size ensures notice; its black hue has made it a symbol of all that is mysterious and awesome; and its amazing sagacity has stirred the admiration of all observers. Among the shrewdest of birds, and as wary as it is wise, the raven can take care of itself, even if it sometimes has to move far back from so-called civilization in order to make this possible.

The best mark for field identification is the call. Although it is larger than a crow, size is often deceptive. Its diamond-shaped tail is not always easy to see unless the bird is soaring. But when once its deep, hoarse 'cra-a-ak' note has been learned it will never again be confused with the weak 'caw' of its cousin.

In some areas the nest is placed in a large pine or hemlock, but in our part of the country I have never seen one in any other location than a ledge of a cliff. It is generally protected both from below and above by an overhang. One nest in Rockbridge County can be directly observed through a crevice 40 feet above the eggs or young, although it could only be reached with the greatest effort. Most nests are much more sheltered and even more inaccessible. I have known only one nest that could be easily reached.

The nest is a large pile of sticks, sometimes several feet across, with an inside cup beautifully and tightly built of grape and cedar bark and softly lined with grasses, feathers, sheep's wool, or short animal hairs. There is nearly always an unpleasant odor about the nest. Usually four to six heavily spotted green eggs are laid but more than four young are rarely raised. In our latitude the eggs are usually laid in March, the young hatching in three weeks or more and leaving the nest four or five weeks later.

The raven is as nearly omnivorous as any creature that lives. It often joins vultures in their unholy feasts. It eats freshly killed animals, reptiles, insects, and vegetable matter of all sorts. It undoubtedly takes some of its food alive, as I have found the remains of flying squirrels common about the nests. It is rarely harmful to man's concerns; but altogether apart from this fact, it is a bird of such interest that it deserves our protection. The world would be a much duller place without the presence of *Corvus corax principalis*.



Camp Opens Lands to County Residents

The Camp Division of Union Bag-Camp Paper Corporation has established a pilot program for limiting the privilege of hunting on company-owned land to the residents of that particular county. The plan is presently limited to Dinwiddie and Surry counties in Virginia.

Company-owned land in these counties is marked by a sign which reads: "HUNTING FOR COUNTY RESIDENTS AND ADJOINING LANDOWNERS—POSTED TO ALL OTHERS."

This policy was adopted through a desire of the Company to be neighborly in the community in which it holds land.

The signs are intended to serve as permission to hunt the land for county residents and those whose land adjoins Company tracts, and as "POSTED" signs to all others.

As this is an experimental project, the use of the land by the local hunters and the observance of the laws of hunting and good sportsmanship will largely determine its success.

Newport News Daily Press Photo

At the state's 1959 big game trophy contest in Newport News, Nov. 7, Virginia's top deer trophy award went to Russell Rogers of Norfolk, left, with a 14-pointer. Other winners included Edward Cheek, Richmond, with an eight-pointer; Jim Mabe accepting for Frank Martin of Newport News in the six-point class; James R. Davis, Newport News, spike buck archery award for the eastern regional, and Robert McDaniel, Newport News, eastern regional turkey award.

Successful Field Trials Held by the Virginia Fox Hunters Association

The 37th annual running of the Virginia Fox Hunters Association Field Trials was held in the Chase City, Virginia area on October 28-31. Some 229 field trial foxhounds participated in the event.

The hunting grounds were located four miles south of Chase City. This area of hundreds of acres of cut-over wooded land offered an ideal site, and was adequately populated with native gray and red foxes. Running was almost continuous. A large number of foxes were caught and many foxes and hounds thrilled spectators and hunters.

Dr. Harry M. Hayter, noted surgeon of Abingdon, Virginia, served as master of hounds, assisted by Fred Duncan of Kingsport, Tennessee.

After three days of excellent running, the speedy female "Dot Moseley," owned by C. H. Moseley of South Hill, Virginia was declared All Age field champion. The derby champion is owned by Howard Y. Haffner, Charlottesville, Virginia.

The closing event of the field trials was the bench show, which included only those hounds who completed the three days of running without being eliminated. At this event championship in the show was won by Al-Mar Shenandoah, owned by A. A. LeGrand, Boydton, Virginia. Reserve champion is owned by Howard Y. Haffner, Charlottesville, Virginia.

Virginia State Field Champion "Dot Moseley."

Virginia State Bench Champion "Al-Mar Shenandoah."

"Open Puppy" winners at the 5th Annual Field Trial of the Merck Rod & Gun Club Sept. 25 were (l. to r.): Oakey Kite with "Fox Hill Katie" (3rd); American Field reporter B. Barnhart; Dick McAffie with "Princess Delmar" (2nd); Field Trial Chairman C. L. Marshall; Hunter Grove with "Steve's Linda Sue" (1st). Standing: Bobby and Henry Eye of Madison Stables, Harrisonburg.

Suds Invade Richmond

Richmond recently was invaded—by suds. White, billowy stacks of suds, up to 12 feet in height and at least as long, wafted along two small streams in suburban areas during a drizzle of rain. The cloud-like masses, some changing to a green hue, quivered in the occasional breezes and parts broke loose to settle on home shrubbery or in trees lining streams. The white "stuff" had no odor and crumbled in the fingers. Officials of the State Water Control Board, after laboratory examination, said the eerie masses were another indication of municipal and industrial stream pollution, the result of such foreign products as detergents.

Nature and Natural History Magazines Consolidated

Consolidation of two distinguished magazines, *Natural History*, published by The American Museum of Natural History in New York, and *Nature Magazine*, publication of the American Nature Association in Washington, D. C., will provide a wider reading public with the popular features of both publications in a single, considerably larger magazine for an annual subscription price of $5.

The new magazine will be published in New York under the direction of John Purcell, editor of the 60-year-old *Natural History* magazine. Richard W. Westwood, president of the American Nature Association and editor of *Nature Magazine* for 29 of its 36 years, will serve as a contributing editor, reporting developments in the field of conservation from the nation's capital. Paul Mason Tilden, assistant editor of *Nature Magazine*, will be an associate editor of the combined publication, which will offer greater opportunity for public service in the field of nature and science education.

Scientists Estimate Catch of Sport Fishes

According to information collected by Clarence E. Richards, biologist at the Virginia Fisheries Laboratory, Gloucester Point, sport fishermen had to fish for 10 or 12 hours during 1959 to catch as many croakers as they did during one hour in 1956-57, but the fish they caught were generally of a larger size. This estimate of availability was obtained through interviews with sport fishermen and through log books voluntarily kept by them.

"Most fishermen realize that there has been a sharp drop in the numbers of croakers, and also changes in the abundance of other salt-water fishes," Richards stated. "Catch record information obtained from log books and interviews makes it possible to follow and compare these changes through a season and from one year to another."

Richards' records show that spot were caught in great numbers in 1959. Fishing for them was two or three times better this year than during the 1958 season, though the fish were somewhat smaller in size. Good catches were made from July to the end of the season in the lower Bay, whereas, in 1958, spot made a strong but late and short run in the same waters.

Flounder catches during 1958 were running about 10 times higher than during 1956-57, and were three times higher in 1959 than in the 1956-57 seasons. Gray trout catches tell a story of continuing decline within the Bay. Croaker, spot, gray trout, and flounder have been the mainstays of the sport catch for many years but the swell toad, or puffer, joined this group during 1959. Previously reported only as an incidental portion of the sport catch, puffers may rank ahead of trout, flounder, and croaker when the 1959 catch data is completely tallied. Perhaps more fishermen are becoming aware of the fine flavor and texture of swell toads and are taking them home instead of throwing them away. Swell toads are marketed as "sea squab" and appear on menus of some of the best restaurants in the East.

"Sometimes I think you'll never get very interested in duck hunting!"

Another Virginia Mammal Book Still Available

Although all copies of the game commission's mammal book have been sold, there are still available a limited number of copies of an earlier book—Bailey's *The Mammals of Virginia*—which was published in 1946 and sold for $5 a copy. The book has long been out of print, but copies may be procured directly from the author, John Wendell Bailey, 27 Willway Road, Richmond 26, Virginia, at $2.50 per copy, postage paid. This publication contains 432 pages, including 99 illustrations, descriptions and life histories of all wild and domestic mammals, a list of fossil mammals, and a chapter on man. It is plainly written, scientifically accurate, thoroughly documented and indexed.

Wrong Caravan

Federal game management agent agent Walter Price of Suffolk reports that on a recent trip to Southampton County he observed a flock of 70 Canada geese winging their way southward. As Price was admiring the stately birds, he blinked and took a closer look, for just behind the lead gander, valiantly striving to keep pace, was a lone pintail duck!

National Forest Income Distributed to Counties

A. H. Anderson, Supervisor of the George Washington National Forest, has released the official figures of the national forest "dividends" paid to the states of Virginia and West Virginia. The "dividends" represent 25 per cent of the gross receipts from those portions of the forest which are in Virginia and West Virginia for fiscal year 1959. Payment is made to state treasurers for distribution to the counties in proportion to the number of acres in each county. Summary of the county allocations on basis of National Forest land in county is as follows:

State of Virginia	
Alleghany	$5,100.40
Amherst	2,064.16
Augusta	7,320.39
Bath	6,129.78
Botetourt	501.33
Frederick	171.07
Highland	2,046.97
Nelson	521.43
Page	913.68
Rockbridge	1,639.48
Rockingham	5,082.52
Shenandoah	2,906.94
Warren	211.61

State of West Virginia	
Hampshire	$ 101.27
Hardy	1,850.69
Pendleton	1,808.30

The forest receives 10 per cent of the gross receipts for maintenance of forest roads and bridges.

Judge Snow, One of Original Game Commissioners, Dies at 64

William Stuart Snow, one of the original members of the Virginia Commission of Game and Inland Fisheries, died at the age of 64 in Roanoke on November 16. A native of Northumberland County, Judge Snow served on the state game commission from 1926 until 1947. He was commission chairman from 1942 until 1944. Surviving are his wife, Mrs. Rosa Lee Snow, one daughter, three grandchildren and three sisters. Funeral services were held November 17 in Roanoke, with burial in Evergreen Cemetery there.

Harrison Assigned to Audio-Visual Section

George H. Harrison, game commission wildlife education specialist at Blacksburg from July, 1958 until May, 1959, returned to the commission recently after serving a six-month Army tour of duty. Now assigned to the education division's audio-visual section office in Richmond, he is working primarily on photography for VIRGINIA WILDLIFE magazine.

Hungry Mother Lake Closed Until June, 1960

Hungry Mother Lake near Marion in Smyth County has been closed to fishermen until June 20, 1960. The Commission drained the 108-acre lake on October 22-23, removed undesirable fish including carp and suckers, and is restocking the lake with properly balanced numbers of bass, bream and crappie. The lake was closed to allow the bass to spawn at least once. The lake contained 137 largemouth bass over eight inches, 200-300 small largemouth bass, less than 30,000 small bream, tons of small crappie, 50 large carp, a few catfish, and many large suckers.

Game Commission Abolishes Conservation Officer Title

Aware that the freeing of its regular wardens from dog law enforcement duties largely eliminated the need for its district conservation officers, the Virginia game commission has called in all conservation officer insignia and given all members of the law enforcement field force the same "game warden" title. It is now filling vacancies created by the resignation or retirement of regular wardens by transferring former conservation officers to these positions. Recent personnel changes show this trend:

Commission Photo by Harrison

Practically all of the Commission's technical personnel were assigned to big game checking stations during the first days of the general hunting season to record deer, bear and turkey sex, age and other data. Game biologist supervisor Ned Thornton is shown aging a doe taken by Clarence W. Young of Wheaton, Md. at a Winchester checking station. Recording the information is wildlife education specialist Max Carpenter.

This two-year old elk, picked up near White Gate in Giles County by Game Warden Bill Jamison and Dr. Van Dressler of V. P. I., was sacrificed and brought to V. P. I. for autopsy. It was found to have a very heavy infestation of lungworm which had brought on verminous pneumonia.

Harry G. King, conservation officer at Disputanta since May 1, 1947, resigned August 31.

Harry L. France, 66, Richmond County game warden since February 15, 1945, retired on September 30, and has been replaced by Gordon M. Birkett, 28, formerly conservation officer at Tappahannock.

E. W. Wilson, 68, Tazewell County game warden since December 13, 1939, retired on September 30.

T. C. Dameron, Danville City game warden since September 12, 1942, was released on November 1 when that city took over its own dog law enforcement.

W. D. Hampton, 65, Grayson County game warden since February 25, 1943, retired on November 30, and has been replaced by Page Clark, 27, state conservation officer at Stuart, Virginia since January 16, 1955.

"Pollution, the Worst Poacher"

In a pamphlet distributed by the Division of Water Supply and Pollution Control of the U. S. Department of Health, Education and Welfare, Juanita Mahaffey describes water pollution as the worst poacher this country has ever known: "Blackest villain on the law-abiding sportsmen's list is the poacher—the out-of-season killer or the culprit who exceeds legal bag limits . . . The first game laws were established to put the unethical game hog out of business . . . There is now a poacher in our midst whose destruction of fish and wildlife far outstrips that of the early-day market gunner or fish dynamiter . . . Pollution is destroying or retarding fish and wildlife in quantities approaching those maintained by the $125 million invested by hunters and fishermen."

FOOD PLOT CONTEST WINNERS ANNOUNCED

Five Eastern Counties List Winning Names

Each spring, the Virginia game commission offers free seed to those groups in the state that are interested in sponsoring a food patch contest with the youth in their counties. The following

Commission Photo by Harrison

Game Warden Frank Settle with Westmoreland County food patch winner Connelly Thomas Worrell of Colonial Beach.

fall brings the food patch judging and the anxious hopes of many Virginia boys and girls who have worked hard to raise a fruitful field of wildlife food.

A game commission biologist, with the aid of the local game warden, usually does the judging. The judges look closely at each competing food patch to determine if the eight different varieties of plants in the seed mixture have successfully produced food for wildlife. Also, they check the amount and quality of the yield.

In some counties, in addition to growing the food patch, each contestant must write an essay telling of the value of his food plot. In many contests, the sponsoring group will award each contestant a year's subscription to VIRGINIA WILDLIFE magazine.

The Westmoreland County contest was sponsored by the Historyland Hunt Club of Oak Grove. Commission biologist Herman Tuttle and Westmoreland County game warden Frank Settle announced the following winners:

Connelly Thomas Worrell..1st prize of $25.00
Washington & Lee High School
Bobby Lee Combs.....2nd prize of $15.00
Washington & Lee High School
Lawrence Perry.....3rd Prize of $10.00
Oak Grove High School

In the counties of Caroline, Spotsylvania and Stafford, commission biologist Howard Sheldon and game wardens Francis Boggs, Darrell Ferrell, and Roland Eagar announced the following winners:

Caroline County—
James D. Crabtree.....1st prize of $25.00
C. T. Smith High School
Melton Cecil.....2nd prize of $15.00
FFA
John Orrock.....3rd prize of $10.00
C. T. Smith High School
Spotsylvania County—
Raymond Simms.....1st prize of $25.00
Spotsylvania High School
Basil Burruss.....2nd prize of $15.00
FFA
Douglas Simms.....3rd prize of $10.00
FFA
Stafford County—
Wayne Johnson.....1st prize of $25.00
Stafford High School
Robert Greenlaw.....2nd prize of $15.00
FFA
Bennie Thomperpson.....3rd prize of $10.00
FFA

The three above county contests were sponsored by the Fredericksburg-Rappahannock Izaak Walton League.

In Lancaster County, Game Warden H. H. Pittman, Jr. announced the following winners:

Lawrence Barrack..1st prize of a rod and reel
Lancaster High School
E. O. Harding.....2nd prize of a rod
Lancaster High School
Guy Franklin.....3rd prize of a hunting knife
Lancaster High School

Wardens Present Gun Safety Programs

Supervising Game Warden R. Stuart Purks and five county game wardens conducted an intensive gun safety campaign in early November in schools in the counties of Spotsylvania, Westmoreland, Caroline, Stafford, and Lancaster, presenting 32 fifty-five minute programs in six school days.

In one morning alone, at Washington and Lee High School in Westmoreland County, more than a thousand youngsters heard Purks, local game warden Frank Settle, and warden Francis Boggs of Spotsylvania County present their gun safety program.

The programs began with a slide presentation of the activities of the Commission of Game and Inland Fisheries by Mr. Purks. This was followed by a home safety talk by the local warden. If a Virginia state trooper was available, he would follow with a talk on highway

Commission Photo by Harrison

State Trooper Conway Jenkins, Warden Frank Settle and Warden Supervisor Stuart Purks show Washington and Lee High School boys Donny Hynson, Michael Knight, LeRoy Lochte, and James Bryant how to handle firearms safely.

safety. The local warden would continue with a few tips on field safety, followed by questions and answers about the game and fish laws.

In addition to county school programs, Purks and several wardens talked to the boys and girls in the city schools of Fredericksburg.

* * *

The opossum is closely related to the kangaroo and koala bear of Australia but is the only member of that pouched mammal group, called marsupials, in America. The young are mere embryos when born. They then spend the first two months of their lives in the warm, protected pouch of the mother.

Wildlife Questions and Answers

Ques.: **What can I, a typical suburbanite, do to attract wildlife around my home?**

Ans.: There is much that every suburbanite can do. Here are just a few winter activities: build and erect bird shelters and feeding stations; plant winter clovers and greens for rabbits; provide brush and feeding fence rows for quail, rabbits, squirrels, and songbirds. Write to the Game Commission for a free reprint on wildlife shelters.

Ques.: **Is Japanese honeysuckle of any wildlife value?**

Ans.: Yes. Honeysuckle is emergency quail and deer food and it makes excellent cover for wildlife of many species.

Ques.: **Does the fox have a voice?**

Ans.: Normally both the red and gray fox are silent animals. At times, however, they emit a sharp, high-pitched bark while hunting.

Ques.: **What wild animals make the best pets?**

Ans.: Although many mammals, notably the raccoon, deer, skunk, otter, and bear, can be domesticated easily and make interesting pets, the Commission does not look with favor upon such a practice. In fact, the keeping of game animals in captivity without a permit is against the law. Wild animals are always a source of danger when in captivity.

Ques.: **Are cats great killers of wildlife and, if so, shouldn't we have a law licensing cats the way we do dogs?**

Ans.: This is a moot question. It is true that stray cats and, to a certain extent, house cats do some damage to birds and young mammals, but there is a tendency to over-estimate this predatory factor. The stray cat should be eliminated but to what extent the average citizen would be willing to go to place restrictions on cats is questionable.

Ques.: **Can a snake bite you in the winter?**

Ans.: This depends on the extent of its torpidity. Although snakes are cold-blooded, the warmer their body temperature the more active they generally become. Take no chances with poisonous snakes, even in the winter.

Ques.: **How long can a person survive in the woods without food in the winter?**

Ans.: No set rules apply. Normally, a healthy person with adequate clothing and water could survive the normal rigors of the outdoors for many days. Food is not the problem. Survival is mostly a matter of proper attitude. Man's best protection is his thought and reasoning process. If a person uses his head, he can emerge safely from almost any outdoor situation in the United States.

Ques.: **Is the rifle deadlier than the shotgun in hunting?**

Ans.: For humans as well as game, no. The danger stems from the man behind the gun. Safety starts with the hunter himself first.

"He always walks in his hibernation!"

Ques.: **What do grouse feed on in the winter?**

Ans.: Grouse feed on a variety of foods in the winter, the diet varying largely with what is available. In Virginia, grouse commonly feed on acorns, tree buds, berries, and ferns.

Ques.: **Are skunks on the increase?**

Ans.: Since the drop in fur prices and the almost cessation of trapping, skunks, like most other furbearers, have been on the increase. What the immediate status of the skunk is now, population-wise, is debatable as little scientific work of recent origin has been made on the furbearers in Virginia.

Ques.: **What is the smallest mammal in Virginia?**

Ans.: The least shrew. This tiny but fierce mammal is smaller than a baby mouse with adults measuring 76.5 mm. in length.

Ques.: **Is there any place in Virginia where I can hunt on Sunday?**

Ans.: No. Sunday is a rest day for all wildlife.

Ques.: **Our garden club would like to do something concrete in conservation. What can we do that would be worthwhile?**

Ans.: Drop a letter to the Virginia Commission of Game and Inland Fisheries and ask for reprint material for garden clubs.

Ques.: **What protection is given the dogwood and holly in Virginia?**

Ans.: A general state law prohibits an individual from digging, cutting, or molesting flowers, shrubs and trees on the lands of another without written permission from the landowner or without his direct supervision. A special dogwood law prohibits the cutting of dogwood trees below six inches at the ground level when used for commercial purposes.

Ques.: **Is it true that the crow is our smartest bird?**

Ans.: Smartness or cleverness is a relative quality in birds. Some birds are smart in certain situations, somewhat dumb in others. There is no denying that the members of the crow family are among some of our craftiest birds.

Ques.: **Do deer bark?**

Ans.: Not as a rule. North American deer "blow" or snort on occasions. Some tropical deer emit a call that some hunters have construed as a bark. They are often referred to as barking deer.

Ques.: **Do fish bite in the winter?**

Ans.: Yes. Fishing through the ice is popular in many northern states. Our own black bass, while not too active, also will take the hook. Many other species of game fish will bite in cold weather. The usual rule, however, is: the colder the water temperature, the less active the fish.

Ques.: **Why does the chipmunk's burrow show no dirt at either end of the tunnel?**

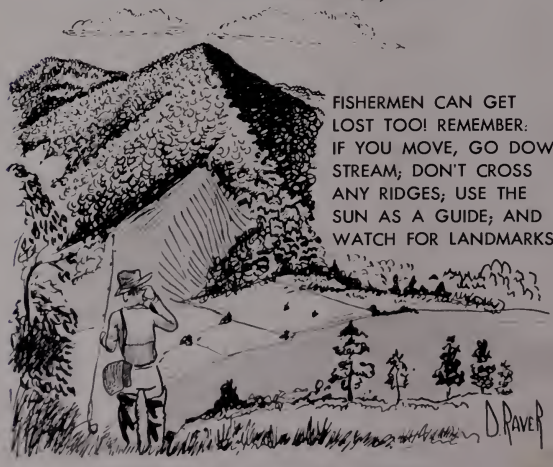
Ans.: The chipmunk digs a burrow with his front feet and pushes the dirt backward with his hind feet, piling it at the entrance. He then digs his way up to the surface a short distance away (still pushing the dirt backward) where he makes a neat and clean entrance. He may make several openings in this manner, pushing all the dirt to the initial opening. When his burrow is completed, he seals off the initial entrance with the "diggings" and doesn't use it.

SURVIVAL!

FIRST OF ALL:
DON'T GET LOST!
BUT IF YOU DO,
DON'T GET PANICKY.

TELL SOME FRIENDS WHEN
AND WHERE YOU ARE GOING
AND WHEN YOU EXPECT TO RETURN.

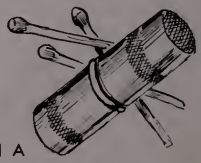
TAKE IT EASY; IF
YOU'RE REALLY LOST
CONSERVE YOUR ENERGY,
WAIT FOR HELP: IT'S
ON ITS WAY.



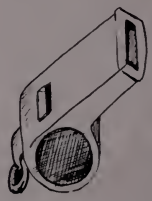
FISHERMEN CAN GET
LOST TOO! REMEMBER:
IF YOU MOVE, GO DOWN
STREAM; DON'T CROSS
ANY RIDGES; USE THE
SUN AS A GUIDE; AND
WATCH FOR LANDMARKS.

THESE COULD SAVE YOUR LIFE:

A GOOD
COMPASS



MATCHES IN A
WATERPROOF CASE



A WHISTLE TO
CALL FOR HELP

EMERGENCY
RATIONS